

ALM



**ALM Surgical Equipment Inc.
Prismavision™ /PrismaCom™
Installation and User Manual**



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ALM Surgical Equipment, Inc.

Warranty

Video equipment is guaranteed for a period of one (1) year, beginning on the date the equipment leaves our depot, with the exception of normal, usable and consumable parts. This warranty applies exclusively to the supply of parts and labor to replace those recognized defective by ALM. This concerns all items of equipment operated under normal conditions.

Any questions relating to the above mentioned warranty should be directed to the ALM Customer Service department or the ALM Project Specialist for your facility.

ALM Installation Guidelines

The installation of the PRX Prismavision/PrismaCom video system is an important function. It requires close cooperation with all members of the team. The following serves as policy guidelines:

Project Specialist

1. Complete and submit a video camera pre-installation checklist.
2. Assist hospital in ordering all parts necessary to insure proper installation of Prismavision/PrismaCom system.
3. Advise hospital of their responsibilities for the installation of the Prismavision/PrismaCom system. (O.R. Supervisor, Engineering).
4. Advise Customer Service and Technical Specialist of hospitals' preferred date of installation.
5. Provide in-service as required for hospital personnel.

Hospital

1. Hospital is responsible for installation of 110 Volt power supply (Prismavision only) on designated wall, to meet NEC (National Electric Code). Also, the routing of ceiling cable from power supply to suspension tube following all electrical codes.
2. Provide personnel to complete the installation.

Technical Specialist

1. Check equipment to insure that proper items are present before installation is started.
2. Supervise overall installation of Prismavision/PrismaCom video camera system.
3. Interface with customer and Project Specialist to answer technical questions during and following the installation.

Acknowledged by:

Hospital

Project Specialist

Date _____

Date _____

Technical Specifications

	PRISMAVISION	PRISMACOM
Signal	NTSC	
Sensor	1/3" hyper HAD CCD	
Pixels	768 (H) x 494 (V) = 380,000	
Lens	12x zoom	12mm NF mount
Focus mechanism	Auto	Fixed
Focal length (mm)	5.4 to 64.8	25
Aperture	F 1.8-2.7	F5.6
Anti flicker	Integrated	
Location	Center of cupola, in sterilizable handle	
Horizontal definition	460	470
White balance	3200K, 5600K, one-push, ATW	3200K - 5600K manual
Signal/noise ratio (dB)	48	
Zoom foot pedal	Option	None
Control box size (mm)	Wall mounted, H300/L170/ D110	None
Outputs	Composite, Y/C	
Power requirements	DC 6-12 V, 2.4 to 3.4W	DC 12 V, 2.3W
Minimum light level	7 lux (f1.8)	4.5 lux, (f 1.2)
Electronic shutter speed	1/60 - 1/10,000s	Normal ,1/1001, 1/4000, flickerless

NOTE: For optimum video image quality, it is recommended that the monitor have a resolution of 600 lines or more and a 75 ohm BNC input connection.

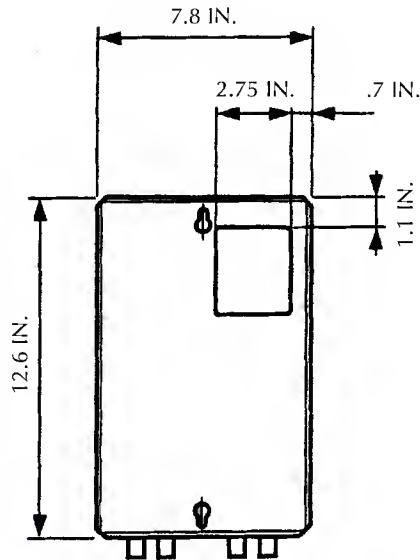
The PrismaVision video camera system is made up of:

1. Video zoom camera with sterilizable handle.
2. Video power supply with remote control and ceiling cable.

The PrismaCom video camera system is made up of:

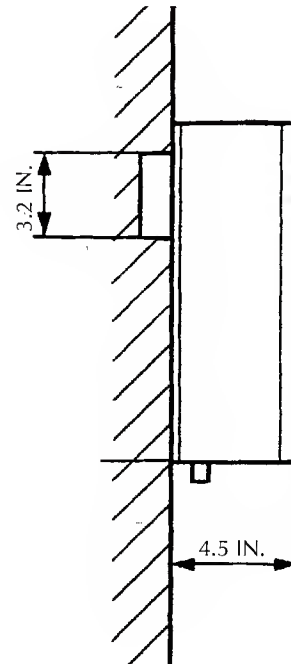
1. Video fixed focus camera with sterilizable handle.
2. Video power supply (integrated in surgical light main arm) and ceiling cable.

Mounting the Prismavision Power Supply Box



View of box frame

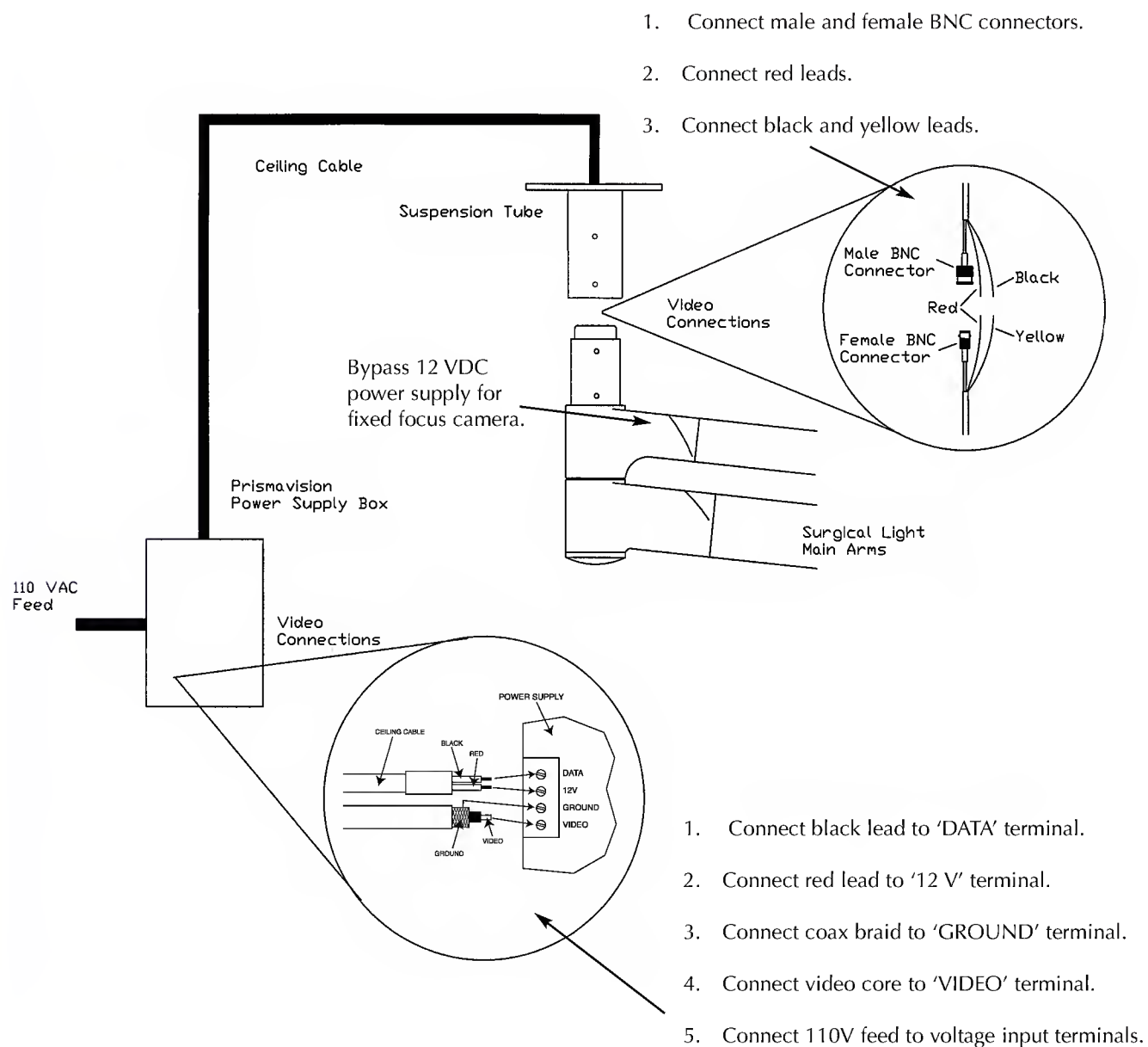
Side view of box

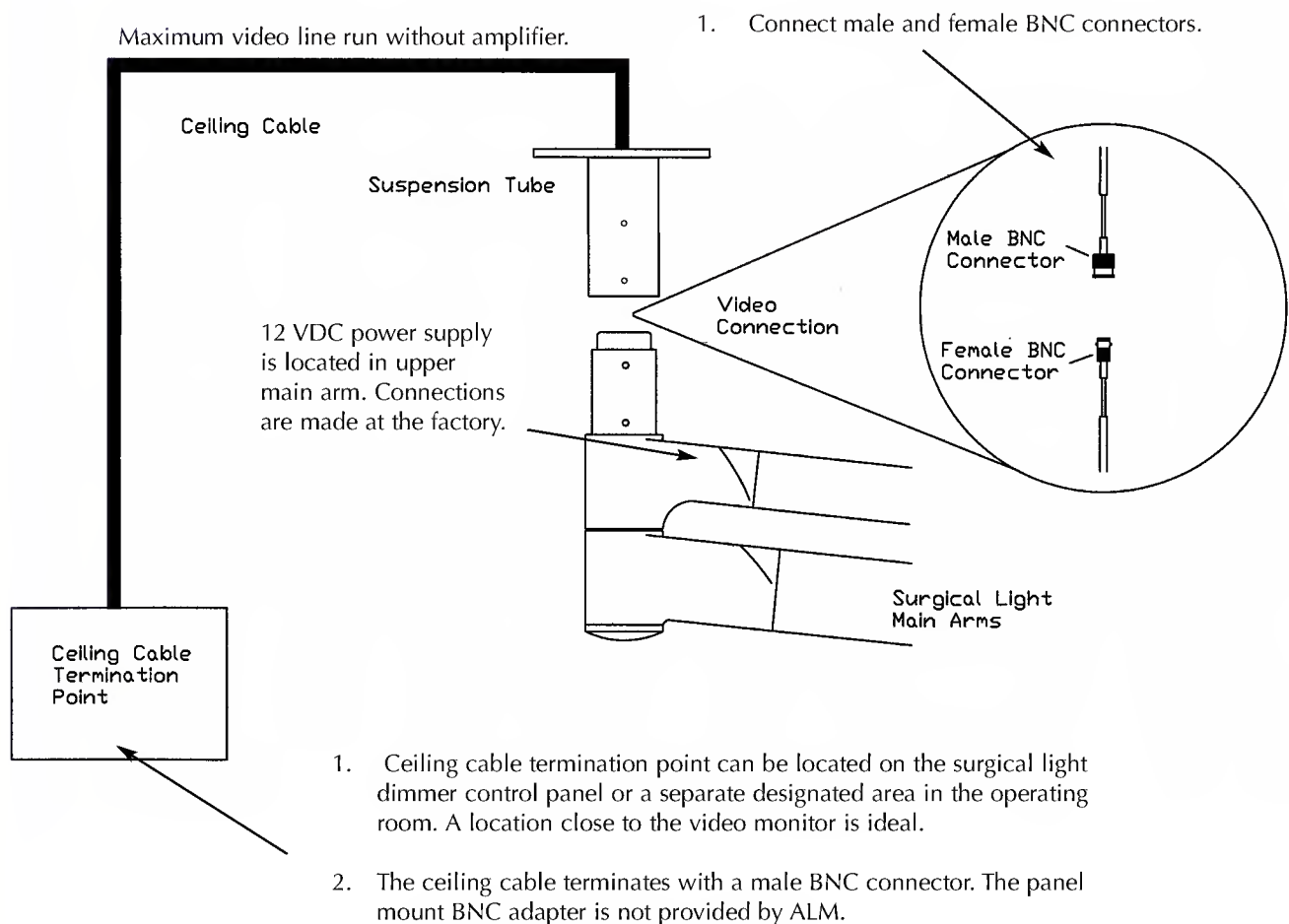


Caution: Be sure that all electrical power is turned off before beginning installation.

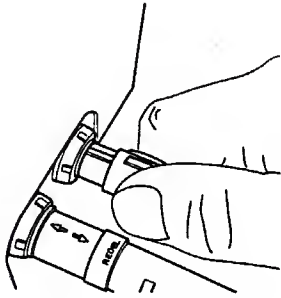
1. Remove two cover screws on power supply box. Pull front cover away from box frame. Disconnect wiring and put front cover aside.
2. Surface mount the box frame on the wall five feet above the floor. Install a 2-gang box near opening of box frame.
3. Pull #14 wires from the supply voltage to the power supply box.
4. Pull ceiling cable (supplied by ALM) from the suspension tube to the power supply box. Use 3/4" conduit.
5. Make electrical connections (schematic on following page).
6. Re-connect front cover wiring and fasten front cover to box frame.

Wiring Diagram-Prismavision

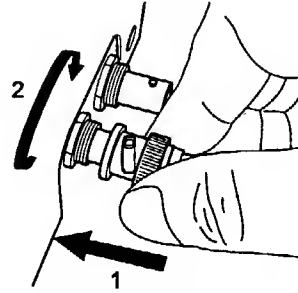




Peripheral Connections to Prismavision Power Supply Box

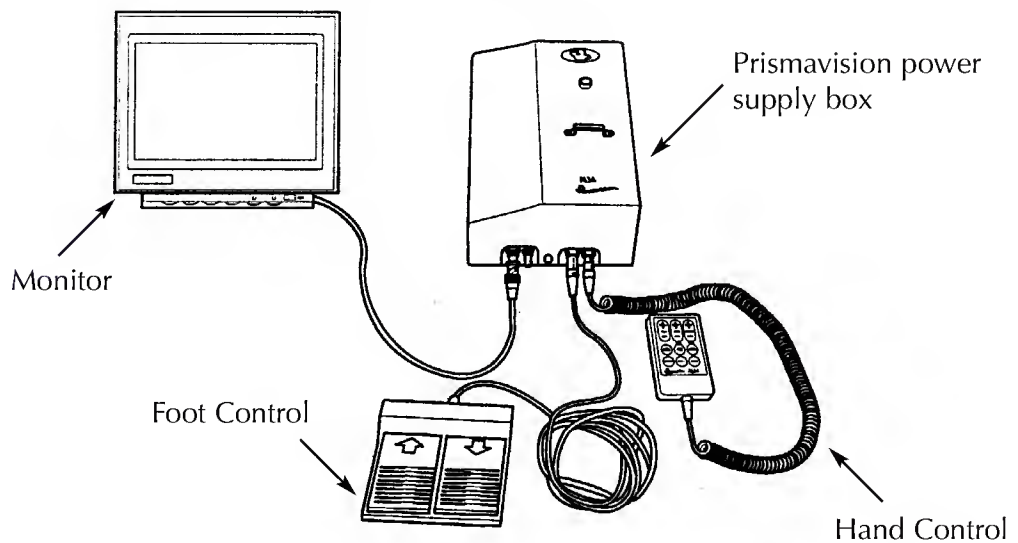


Align with groove and push in to lock.



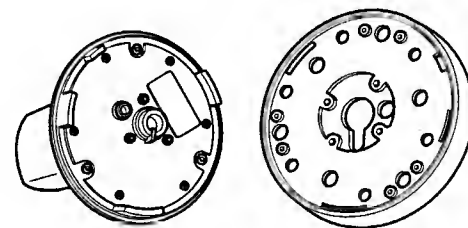
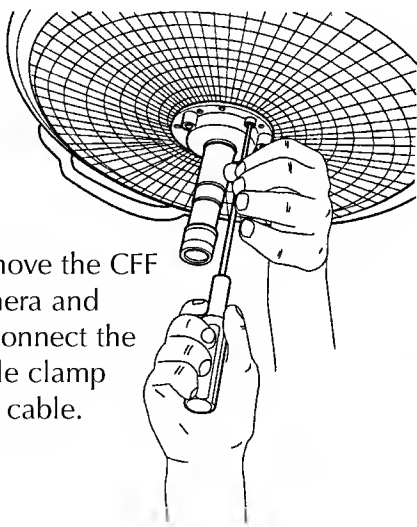
Push BNC connector in and rotate clockwise.

Peripheral connections

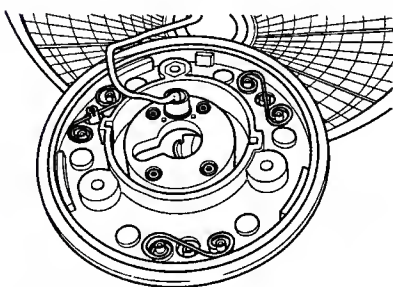


Installing the VZ Camera

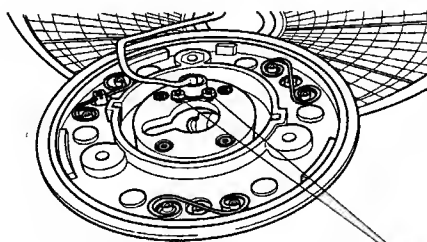
1. Remove the CFF camera and disconnect the cable clamp and cable.



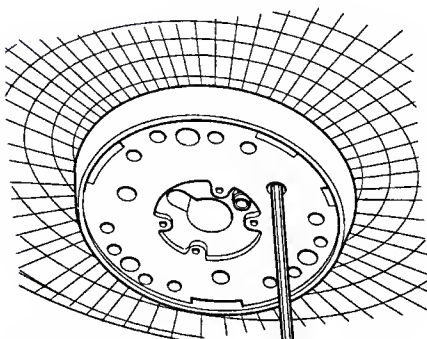
2. Mount the VZ camera to its mounting plate.



3. Connect cable.

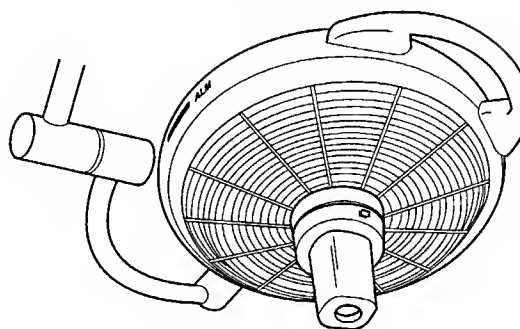


4. Fasten connector in place using two screws.



5. Remove VZ camera from its mounting plate.

6. Mount VZ mounting plate to lighthead, using 3 screws.



7. Mount VZ camera back onto VZ mounting plate.
8. Bypass CFF power supply board in upper main arm (see page 5).
9. Turn on VZ power supply and check system for proper operation.

Adapting the Camera to the PRC Light

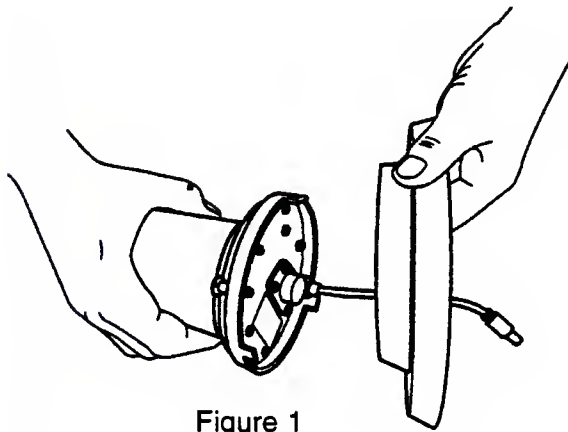


Figure 1

1. Remove the VZ equipped 5000 Cupola and spring arm.
2. Install the new spring arm supplied with the kit.
3. Reinstall the VZ equipped 5000 camera.
4. Remove the handle from the VZ equipped 5000 cupola.

5. Connect the adapter cable to the camera and fasten the camera to its mounting plate.
6. Fasten the mounting plate/camera assembly to the 5000 cupola (fig. 2).

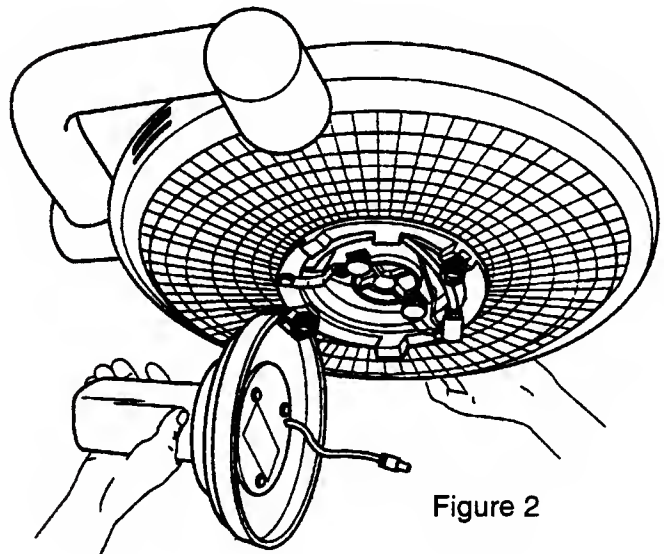


Figure 2

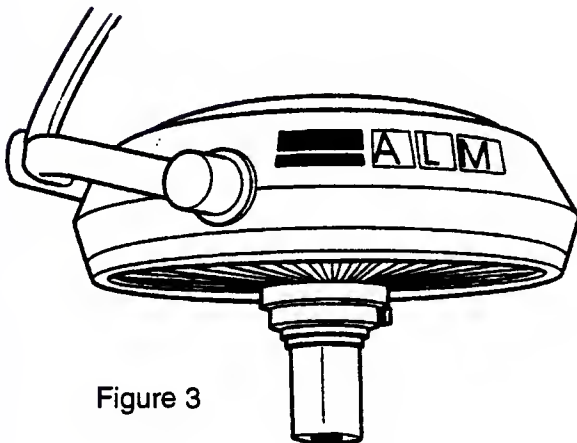
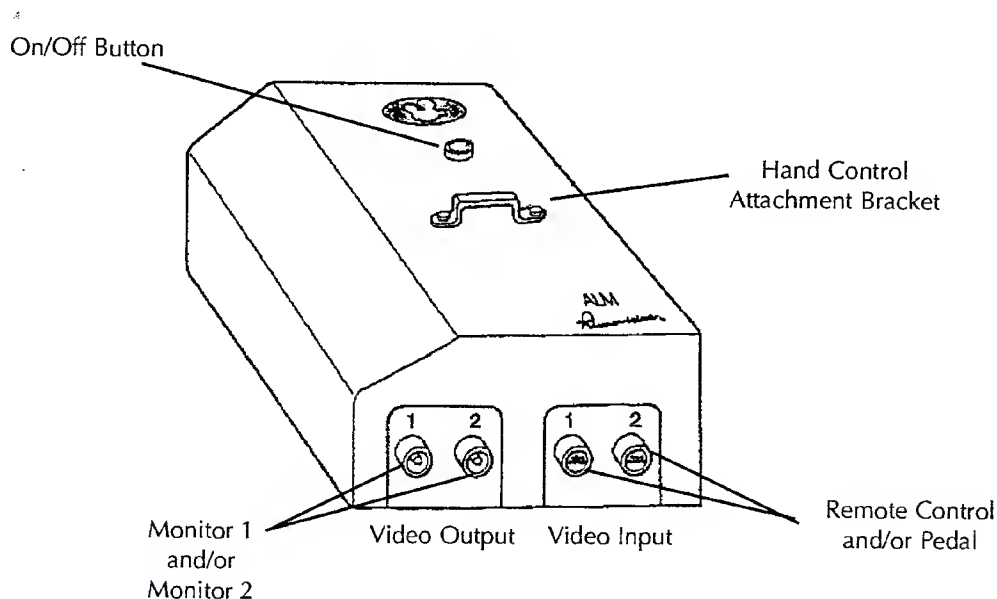


Figure 3

7. Connect the adapter cable to the cupola wiring connector.
8. Close the mounting plate/camera assembly (fig. 3).
9. See page 5 for wiring connections.

Power Supply Operation

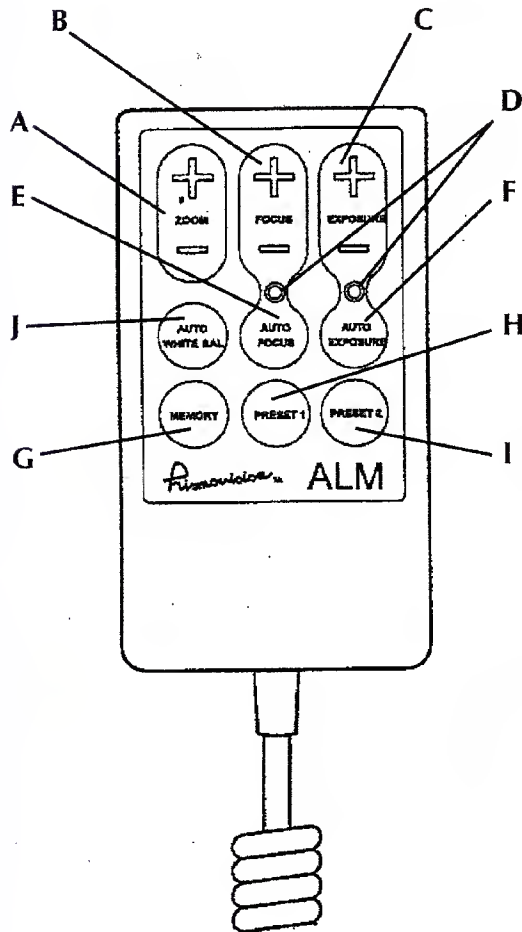


Power Supply Operation

Located at the bottom of the power supply box are the hand control, monitor (s) and foot control ports. Each desired component must be properly connected before turning the system on. To activate the Prismavision camera system press the green power button located on the power supply. The Prismavision system will "wake-up" in the automatic focus, white balance and exposure mode.

To turn the Prismavision off, press the green power button.

Hand Control Operation



- A. ZOOM ADJUSTMENT: Enlarges or reduces the image.
- B. FOCUS ADJUSTMENT: For manual adjustment of image sharpness.
- C. EXPOSURE ADJUSTMENT: Camera iris adjustment. Used to control intensity of light received by sensor. '+' opens iris, '-' closes iris.
- D. AUTO INDICATOR LIGHT: Indicates that function is in automatic mode. This light will go off when manual override is activated.
- E. AUTO FUNCTION: Restores function to automatic mode. Green Indicator light (D) will be on.
- G. MEMORY FUNCTION: Stores custom settings of zoom, focus, exposure and white balance.
- H. PRESET 1: To set and/or recall a memorized setting.
- I. PRESET 2: To set and/or recall a memorized setting.
- J. AUTO WHITE BALANCE: White balance (color) Adjustment.

Hand Control Operation

When the Prismavision system is turned on, (pg. 10) the hand control will "wake-up" in the automatic function mode. This will be indicated by the green auto indicator lights. The only manual function required is the zoom adjustment.

Feature Definitions

ZOOM ADJUSTMENT - Pressing and holding the + or - function will adjust the size of the image on the monitor.

FOCUS ADJUSTMENT - The green light indicates that the focus adjustment is in the automatic mode. The image will remain in focus as the picture is zoomed in or out or the light head is repositioned. The user can manually adjust the focus by pressing and holding the + or - key. When these keys are pressed, the green indicator light will go out. To reset the auto focus feature, press and hold the auto focus button until the green light turns on.

EXPOSURE ADJUSTMENT - The green light indicates that the exposure adjustment is in the automatic mode. The proper light exposure will remain correct as the light intensity changes. The user can manually adjust the exposure (iris) by pressing and holding the + or - key. When these keys are pressed, the green indicator light will go out. To reset the auto exposure feature, press and hold the auto exposure button until the green light turns on.

AUTO FUNCTION - These buttons restore the corresponding function to automatic. Press and hold the button until the green light turns on.

MEMORY FUNCTION - This function allows the user to memorize a specific camera setting. First the settings (zoom, focus, exposure and/or white balance) are established. To store these settings simultaneously press the memory key and Preset 1 or Preset 2.

PRESET 1 and 2 - Recalls or establishes memorized settings. To recall a setting simply press the appropriate button and the system will automatically recall the desired settings. These settings will remain stored until new settings are programmed, or until the system is turned off.

AUTO WHITE BALANCE - The "white balance" function is used to balance the video image colors according to the dominant color in the field viewed. Prismavision has an automatic white balance feature calibrated to the PrismAlix and Prismatic light. The user can manually set the white balance by focusing the Prismavision camera on a uniform color (white sheet of paper) and pressing and holding the auto white balance button for 10 to 15 seconds until the image changes color. To reset the default auto white balance, press and release the same key.

Image Orientation

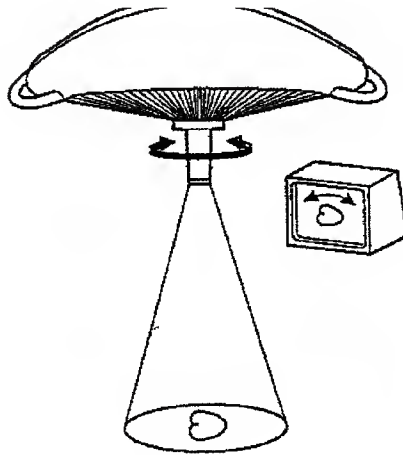
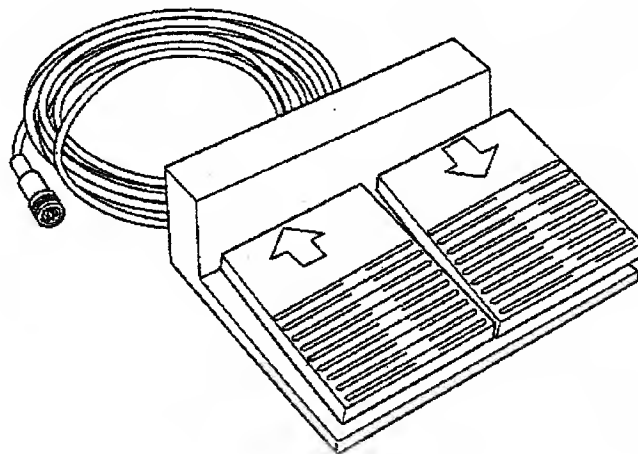


Image Orientation

The on screen image can be oriented by rotation of the Prismavision or Prismacom handle assembly. This allows the user to place the image in the exact position desired.

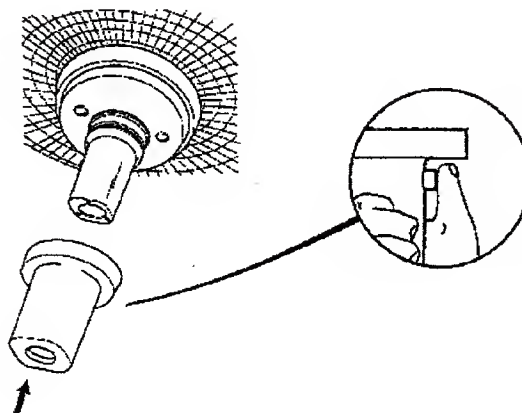
Foot Control



Foot Control

The foot control is optional. The foot control has two functions, zoom in and zoom out. The right pedal reduces image size and the left pedal increases image size. The foot control connects directly to the Prismavision Power Supply Box and operates independent of the hand control.

Sterilizable Handle Placement and Removal



Sterilizable Handle Placement and Removal

To place the sterilizable Prismavision handle, simply slide the handle over the gray camera assembly until you hear the locking mechanism engage ('click'). To remove the handle press the button located on the handle and slide off.

Sterilization Procedure

Sterilization Procedure

Avoid 'FLASH' cycles. Do not stack handles. Handles should not come into contact with metal. Prismavision and Prismacom handles are guaranteed for a minimum of 100 cycles.

Gravity-displacement cycles for routine porous and non-porous loads:

Expose temperature and time: $134^{\circ}\text{C} \pm 4^{\circ}$ for 20 minutes.

(IEC-1988 standards, 601.1 44.7 page 155)

Sterility assurance level, 10^{-6}

Cleaning

Cleaning

To prevent scratching the lens, avoid abrasive cleaning agents on or around the camera assembly. An anti-static cleaning agent is recommended. Apply the cleaning solution to the area to be cleaned and wipe dry with a soft silk cloth.

NOTE: The camera must never be disinfected by immersion or sterilization.

Spare Parts

Spare Parts

50076	Prismavision Camera Sterilizable Handle
50072	Prismacom Camera Sterilizable Handle
50169	Prismacom Camera Sterilizable Handle, (box of 5)
50090	15m Prismavision Ceiling Cable
50091	25m Prismavision Ceiling Cable
50153	15m Prismacom Ceiling Cable
50154	25m Prismacom Ceiling Cable
50155	15m Prismavision Ceiling Cable for Multi-room Complex
50156	25m Prismavision Ceiling Cable for Multi-room Complex
50157	15m Wall to Multi-room Self Contained Control Box, Cable
50158	25m Wall to Multi-room Self Contained Control Box, Cable
50159	Wall Plate, Prismavision
50160	Wall Plate, Prismcom
50151	Foot Pedal
50074	Hand Pendant
50086	Prismavision Camera Only
50075	Prismacom Camera Only

To order, Contact:

ALM Surgical Equipment, Inc.
Customer Service Department
1820 North Lemon Street
Anaheim, CA92801-009
1-800-842-2555 or 1-714-578-1234

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